分子細胞神経生物学（Cellular and Molecular Neurobiology）

科目番号 Registration Number: 01EQ057 (KM3NN04U at University of Bordeaux)

筆頭教員（連絡先・オフィスアワー）Course coordinator (contact details and office hour):

小金澤禎史 Tadachika Koganezawa (t-kogane@md.tsukuba.ac.jp, at all times)

(Course coordinator at University of Bordeaux: Elena Avignone (elena.avignone@u-bordeaux.fr))

(Other contact person at University of Bordeaux: Christophe Blanchet (Christophe.blanchet@u-bordeaux.fr))

一般目標(GIO: General Instructional Objectives)
Systematic understanding of the cellular and molecular aspects of Neuroscience

行動目標(SBO: Specific Behavioral Objectives):
Upon completion of this course, students will be able:
· to analyze and understand the neuronal and brain functions at the cellular and subcellular levels;
· to describe the use, limits and interest of anatomic, genetic, physiologic, pharmacologic, and biochemical approaches to the study of neuronal and glial functions and the analysis of elementary mechanisms.

授業項目 Lecture Schedule/Main Topic
September to November
I. Lectures: 26 hours (Participation to conferences and seminars of Neurocampus)
   Electrophysiology and imaging of synaptic transmission
   Errors and confusions in inferential statistics
   New technique to study neuronal morphology
   Synaptogenesis, maturation and synaptic plasticity
   GABAergic neurotransmission in the basal ganglia
   Presynaptic organization and vesicular cycle
   Neuronal modeling
   Subcellar fractionation of brain tissue
   microRNA: role in phatolgy and plasticity
   Introduction to glia
   Astrocytes, gliotransmission and regulation of synapse function
   Astrocytes, pathology and metabolism
   Microglia: key player in pathology and physiology

Teachers: Elena Avignone, Jerome Beaufreton, Christophe Blanchet, Anne-Karine Bouzier-Sore, Daniel Cattaert, Alexandre Favereaux, Laurent Groc, Etienne Herzog,
Marc Landry, Agnes Nadjar, Aude Panatier, David Perrais, Thomas Tourdias.

II. Tutorial class: 24 hours
Case studies, simulation, task oriented work

III. Practical: 8 hours

評価方法 Evaluation for Grades & Credits
Grading will be based on the following examinations:
· Oral assignment during the course
· Written assignment during the course
· Paper (2 hours) at the end of the term

教科書 Textbooks
To be announced if any.

参考書 References
To be announced if any.

備考 Notes
This course is hold at University of Bordeaux from September to November.
“International Medical Sciences Exchange Program III” must be taken together with this course.